

The Educational Weekly.

The Educational Weekly.

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CHICAGO, THURSDAY, AUGUST 1, 1878.

Editorial.

THE History of the Wisconsin Teachers' Association, prepared by Prof. Albert Salisbury, of the Whitewater Normal School, is full of interest to the gleaner in the history of education. To us there is nothing more interesting than these glimpses at the beginnings of the beneficent structure—our common school system. And yet a slight feeling of regret and sadness will arise when we ask the question: Is the earnest, self-denying spirit of the pioneers in the cause of education, inherited in its fullness, by the present generation of teachers? But still a flood of consolation comes from that trite but significant remark, "Times are changed."

If such men as Horace Mann, Cyrus Pierce, Henry Barnard, Asa Lord, Samuel Lewis, J. L. Pickard, and J. G. Mc-Mynn, should enter the ranks to-day, with all their devotion and ability, they could not reach the prominence or wield the influence which now belongs to their names. The pioneer period, the scouting period in education, which gave great prominence to zeal and individuality, is passed. We are now in the real conflict. Organization and efficiency in the whole column is the great element now. Individuality and personal prowess are not of less real value, but simply of less relative value, than formerly. Even the Black Prince himself would seem reduced to an ordinary mortal, if he belonged to a regiment of modern infantry. It is a pleasure to think that the character and the zeal which to-day are being consumed in this noble cause are not unworthy to

be compared with those greater fires whose individual brightness was increased by the darkness of forty years ago, to dispel which it was their privilege as well as their glory.

From Prof. Salisbury's history, it appears that the first educational gathering in the Northwest was held at Chicago in October, 1846, a period within the memory of many of our readers. In fact, among the few present were men to whose words we still listen and whose hands we are still allowed to grasp. There were Henry Barnard, then Superintendent of the schools of Rhode Island; Wm. F. Phelps, of the Normal School, Albany, N. Y.; J. L. Pickard, of Elizabeth, Ill.; Salem Towne, of the famous spelling-book, and Wm. B. Ogden, and Long John Wentworth.

What a change from that day to this! Think of the Hon. Henry Barnard to-day standing on the end of a barrel and addressing the school children of Chicago! Think of the members of the late Wisconsin Association at Geneva Lake, going through the experiences of the second meeting of that Association, held at Madison in 1854, and described by Mr. Pickard:

"So little interest was felt, by either the teachers of the state or the citizens of Madison, that those who came to attend the Association could find no one expecting them, nor that any provision had been made even for a place in which to hold their meetings. They 'happened together' at one of the inns of the place, and after much time spent in fruitless search for some one sufficiently interested in the cause to procure them a suitable room, they sallied forth to look for themselves. At length in an obscure room in the old Court House, of which one of them had obtained the key, and by the light of a few tallow candles, purchased by one of their number, and which, for want of candlesticks, were held by the hands of as many teachers, with one citizen as a witness of their proceedings—the Association entered upon its business. The records do not tell us how many were present, but from the recollection of all who can be found, we learn that there were but six or seven teachers, and eight or ten book agents, at the opening of the session. And, indeed, this is not to be wondered at; for a teachers' association could not expect to be popular, in a state in which our profession was so lightly esteemed.

"The remainder of the session was much better attended, for curiosity was somewhat aroused to learn what could induce men, and, above all, teachers—to come from home, at a very considerable expense (in those days they had no 'return free' tickets, nor deductions from hotel bills), to attend meetings of their own 'craft.'"

Such reminiscences as these do not seem as valuable now as they will seem in years to come. With what interest do we now read the unique record of the General Court of Massachusetts establishing schools for the "better instruction of the young," in the early colonial days!

Horace Mann's description of his school-days, and his experience as a missionary of education in 1837 and 1838, recent as they are, are hardly surpassed in interest by anything of an historical nature in a teacher's library.

The men are passing away whose memories contain reminiscences and experiences which would be choice material for the historian of the future. Let every locality see to it that these men do not carry to the grave with them their interesting recollections!

HOW SHALL THE DEATH PENALTY BE INFLICTED.

THERE seems to be evidence of a healthy reaction from that sentimentality which a few years ago was abounding in sympathy for the criminal, and was clamoring for the abolition of capital punishment. The British House of Commons in March last declared its conviction by defeating a bill for the abolition of capital punishment by a vote of 263 to 64. If the WEEKLY is not mistaken, a movement is begun, if it is not already consummated, to restore the death penalty in Iowa. With

in the last eighteen months it seems from the daily press that more murderers have received their just doom than in any thirty-six previous months since the war.

The community is rousing to its own protection. We hear less about "emotional insanity." Less attention is paid to those philosophers who maintain that character is entirely a product of environment, and that the community, because of the education it gave to the criminal, or allowed him to get, is responsible for the crime, and not the man himself. But there is ample room yet for the growth of public sentiment before the criminal class gets the desert from which it has been so long exempted. However, society cannot, by any means, be relieved from a heavy responsibility in the matter of fostering crime, while its methods of inflicting capital punishment are unchanged. Not long since, the telegraph informed us of an execution in Tennessee, witnessed by 10,000 people; and again of a murderer who ascended the scaffold with a cigar in his mouth and the flippant confession that he had committed four murders. Such items fill a regular department in all of our daily papers. In some of the most cultured communities of Ohio, their local papers have furnished lately large pictures of the criminal, the scaffold, the "final swing," and of everything sensational pertaining to the execution. Even afternoon extras, containing nothing else, found a ready sale. Through the "kindness" of the Sheriff and his deputies, large and eager audiences were allowed to witness the "private" executions. While such reading may be revolting to the refined, it is extremely demoralizing to the community. The influence that these scenes and details have upon the lower classes can be realized by those only who hear them talk. They are fascinated by these descriptions just as better people are by a thrilling romance. The victim is a hero. "To die game" is his highest glory. He has been unfortunate in being compelled to suffer the penalty of the law, but the "pluck" with which he meets his end removes all disgrace. No word of condemnation or regret is heard for his deed. What should be a sentiment of honor and execration becomes, through a character brutalized and distorted by familiarity with crime, a sentiment of hero-worship.

But it is superfluous to recount the arguments against making these scenes in the least degree public, or of publishing the details. Every body assents to the arguments. Not a word is heard in defense of the common practice. And yet the people seem to enjoy such loathsome sensations.

Something would be gained if our law-makers and authorities would adopt a method of punishment from which all sensation and romance were totally removed. Hanging is a relic of a barbarous day, and its tendency is strongly toward perpetuating the state of society in which it took its origin. It is out of place in a Christian and cultivated community; not because of any wrong necessarily done to the criminal, but because of the wrong done to those who lack but little of being criminals.

Upon the Mode of Inflicting Death, Mr. John H. Packard, a prominent physician of Philadelphia, is credited with some remarks in the Proceedings of the New York Medico-Legal Society, published in the *Sanitarian* of August, which are worthy of careful consideration. He says:

"What I would suggest is that there should be fitted up, in the jail, a small room, which can be made air-tight. By means of very simple arrangements carbonic oxide can be substituted for the air of the room, and a person confined in it would thus die the easiest and quietest death known to science. He would simply cease to exist.

"A jury should be appointed to identify the convicted person. In their presence he should be conducted to the room, and placed in it, entering by a sliding door—of plate glass it may be—protected by netting of iron wire. The process of rendering the air irrespirable should then be begun, and would

very soon be completed. In less than ten minutes fresh air might be introduced by opening the sliding-door and reversing the former process; and the same jury, again identifying the body, could certify to the fact of the execution having been duly carried out.

"In 1874, Mr. Coleman Sellers suggested the adoption of this carbonic oxide poisoning as the method of killing the dogs taken up in the city of Philadelphia, and unredeemed; and it has been found to answer the purpose perfectly. By the kindness of Mr. Marett, the Superintendent of the Dog-shelter, I have inspected the process more than once. At my last visit I carefully timed its duration, and found that of forty-three dogs of various sizes introduced into the room, the air being pure, every one had ceased to breathe three minutes after the gas began to flow. Two dogs, weighing about 45 pounds each, were put in singly, and the time was exactly the same for both—110 seconds.

"More exact details of the method can readily be furnished, if desired. It is essentially the same as that within a few years so often adopted by suicides in France. To my own mind it presents many advantages on the score of humanity, propriety, and efficiency.

"Dogs killed in this way manifest scarcely any evidence of suffering—not more than I have seen in inducing anesthesia by ether, in other dogs, for the purpose of surgical operations.

"The death would necessarily be private. Probably there would be little, if any, struggling to be witnessed.

"As to the certainty of the extinction of life, there can be no question, for reasons known to every tyro in physiology.

"Between the sickly sentimentality which would spare merciless murderers, and the brutal ferocity which would exult over their dying agonies, there seems to be a just and wise medium, where the law can take its stand, vindicating itself, protecting society, and yet inflicting no needless torture on the unhappy criminal."

THE HIGH SCHOOL QUESTION.

UPON a motion before the Ohio State Teachers' Association July 4, 1878, requesting the State School Commissioner to prepare blanks with a view to statistics bearing on the High School question, W. W. Ross, Superintendent of the Schools of Fremont, Ohio, spoke as follows:

M. R. PRESIDENT.—I was very glad that Mr. Cook called the attention of the Superintendents' section, on Tuesday, to the glaring misstatements heralded over the land to the prejudice of the high school, as to the relative attendance upon the high school department and the number of graduates from the same. It is time that these misstatements and the misapplied, misunderstood, and misleading statistics on which they are based were thoroughly ventilated and exposed in this Association.

Our last state school report, after premising that the high school enrollment is only about three percent of the entire state enrollment, on page after page, says that ninety-seven pupils in a hundred never reach the high school. After further premising that the number of graduates from the high schools is only one half of one per cent of the entire state enrollment, it proceeds to say, that not more than one pupil in two hundred ever graduates.

At the last Tri-State Teachers' Association held in Toledo, a superintendent from Michigan made the statement that 95 per cent of the pupils in our public schools never reach the high school, basing his proposition on similar statistics.

In the May number of the *Ohio Educational Monthly*, a correspondent says that "statistics show that 95 per cent of the pupils in our public schools never get beyond the primary and grammar grades.

These statements are scattered everywhere throughout the country, through educational reports, educational periodicals, and educational associations; they find their way into legislative halls, and are there used against the high school; they are calculated to deceive the very elect, and yet, I stand here to say that *there is not one word of truth in them.*

In the first place, there is no justice whatever in estimating the high school enrollment and graduations in per cents on the basis of the state enrollment, inasmuch as two-thirds of the state en-

rollment is made up of pupils in the ungraded country schools, and the high schools are confined to the towns and cities.

But, it is to an infinitely more glaring fallacy in the current deductions made from school statistics, to which I would call your special attention. The popular mind is apt to refer per cents to one hundred as the highest possible attainment, whereas, if every pupil who enters the lowest primary should be promoted to the high school and continue throughout the course, the high school enrollment, covering four years of a twelve year course, could not possibly exceed $33\frac{1}{3}$ per cent of the entire enrollment. If every pupil who enters the lowest primary should graduate at the end of the twelfth year, the number of graduates could not exceed $8\frac{1}{3}$ per cent of the enrollment of the entire twelve grades. The reasoning is about as follows: The high school enrollment is 5 per cent of the entire enrollment, therefore only 5 per cent, or only 5 in a hundred, ever reach the high school, or 95 per cent, 95 in a hundred never reach the high school.

The number of graduates is only one half of one per cent of the entire state enrollment, or a little more than one per cent of the enrollment in the towns and cities; therefore only one pupil in a hundred of those enrolled in the schools of our towns and cities ever graduates, or ninety-nine out of a hundred never graduate.

These deductions involve a glaring *non sequitur*. The fallacy is so palpable that it is a wonder that it could escape observation for a moment. The fallacy can perhaps be best illustrated by showing the absurd conclusions to which a similar course of reasoning may lead. Let us suppose that one hundred pupils enter the lowest primary each year, and that with each succeeding one hundred they are regularly promoted without loss from year to year, until the entire first one hundred, at the end of the twelfth year, stand ready for graduation.

Now for the reasoning. The enrollment in the high school, covering four years, is only $33\frac{1}{3}$ per cent of the entire enrollment; therefore $66\frac{2}{3}$ per cent never reach the high school, whereas, by our supposition every pupil reaches the high school. The one hundred graduates are only $8\frac{1}{3}$ per cent of the entire enrollment; therefore only $8\frac{1}{3}$ per cent ever graduate, whereas, by the supposition every pupil graduates.

And yet these palpably false deductions have received the sanction of school reports and educational journals, and were used against the high school in the legislative discussion at Columbus last winter.

If the estimates are made on the basis of the annual accessions to the lowest primary, the only true and correct basis, supposing the population to remain unchanged, or if the number who enter the high school or graduate therefrom is compared with the number in the same class, when they entered the lowest primary respectively eight and twelve years before, then it will be found that instead of five per cent, thirty and even forty per cent do reach the high school; that is, of every one hundred pupils who enter upon the lowest primary or first school year as high as thirty and even forty do enter the high school; it will also be found that the number of graduates leaps rapidly upward from one half of one per cent to ten, fifteen, and even twenty per cent; that is, of every one hundred pupils who enter the first school year, from fifteen to twenty do complete the course and graduate from the high school, whilst twice the number enjoy to some extent high school privileges.

These are some of the facts, statistics, and statements, which, I say, should be thoroughly ventilated in this Association and

elsewhere through the country. When understood, they will rob the high school opposition of its loudest thunder.

Let the motion pass.

ADDRESS TO THE GRADUATING CLASS OF THE STATE NORMAL AND TRAINING SCHOOL, CORTLAND, N. Y., JULY 2, 1878.

By the Principal, J. H. HOOSE.

FELLOW TEACHERS:—HONORS awarded and accepted are responsibilities assumed. These diplomas are merited honors awarded to you by the state, and they are weighted as well with measures of obligations as of rewards. It is the honorable position of our profession to be in the vanguard of the other professions as the people in array are pressing forward against ignorance, crime, and degradation, in order to attain a higher state of civilization and enlightenment. Being at the advanced posts, we are conspicuous in all that we do—we are honored if we succeed, and we are in disgrace if we fail. To every aspirant there is open, therefore, a choice of ways in the educational field—the one leading to success and usefulness, the other to failure and ultimately to oblivion. In preferring the way of success in our professional career, it should be forgotten by no one that the measure of responsibility which rests upon the profession measures the responsibility of him who enters therein. There is such a thing as responsibility of a calling or of a profession, as such, which is independent of the person who labors within it. As teachers, your study is to learn what the obligations are that rest upon your profession, for they measure yours as individuals. If you comprehend your obligations only feebly, you may be readily imposed upon by the other professions and by people that would burden you as individuals with educational responsibilities toward society which belong to their own conditions in life. Sometimes this will be attempted as in apparent honor and compliment. While these are to be sought and appreciated, yet if they are urged as extraordinary inducements for you to assume responsibilities belonging to other callings, be not flattered by them. As teachers, do not be betrayed into attempting long to carry the burdens of life which lie outside of your profession, for failure only will follow the attempt, however conscientious may be your endeavor.

I would exhort you to magnify your profession—that you honor its responsibilities—that you strive with jealous care to make your calling worthy of remaining at the lead of the other professions which are contending for a nobler living; but I would not have you, as teachers, assume to yourselves the responsibilities toward educating the youth which belong to the professions of Law, Medicine, and Theology, which belong to business, to the press, to society, and to the family. Within the relations just enumerated are obligations toward the young which should not, and cannot be assumed by teachers, who are but agents for society and state. *In loco parentis* for the teacher does not mean that he is responsible over and beyond the parent for the well-bringing-up of the child; it only means that he is to assist the parent. Is the teacher under imperative obligations to sow the seeds of morality, religion, honor, truthfulness, integrity, nobility, industry, in the mind of the child, and to cultivate within him the habits of self-reliance? Infinitely more pronounced and commanding are the responsibilities of the parent to do all this. Speaking for our noble profession, I say that however great may be the responsibilities of the teacher, yet still greater are those of

the persons to whom God has given the sacred honors of parenthood. If, now, parents fail to control aright their children, to what extent should you, the teacher, be responsible for controlling and guiding them? To the full extent of your ability, and in conjunction with the parents, while the children are within your jurisdiction of time and place. But you are not to enter the homes of those children to restrain them, unless you are especially invited as a friend, and as a friend you accept the invitation. This is all it should be.

Business men, professional men, and citizens generally, have grave responsibilities toward the young. If the minds of the youth are poisoned daily by the overreaching of men in dishonesty in their business transactions, by profanity, by vice in any form, are you responsible to the world that all those abominations shall be eradicated from heart of the youth? Often it is a fruitful theme for other professions to urge upon us that to our profession is the world anxiously looking for measures and influences to purify society. But when the child is in school but five or six hours daily, for five days each week, and for only forty weeks in the year, and is in the haunts of indifference, of vice, of crime, of the society of wicked men and women, or of too indulgent and over-weak parents, the rest of his waking hours—when I see all this, I steel my heart against accepting the charge that the sum total of the responsibilities of society rests upon us alone. Commercial men, moneyed men, parents, working men, civil officers, lawyers, doctors, clergymen, citizens, journalists, have duties in the case. I do not believe that God ever designed that educators alone should be responsible for the onward rolling of the "wheels of progress." The youth are instructed in the ways of right-living, and hence it is an important duty which the adult society owes to the young, that of honoring in their life and example the advantages which these ways are supposed to possess. As society holds you to your province, so do you hold society to its responsibilities toward the youth who may come before you for instruction.

Finally, your measures of responsibilities toward your profession are great—you have it in your power to elevate and enoble it, to place it in the honorable callings with less mental reserve and question before the world. To sustain it there requires vigor, ability, wisdom, untiring application, and fullness of experience, and strength from Him who is "sufficient for these things."

GRUBE'S METHOD.—VIII.

Prof. LOUIS SOLDAN, St. Louis Normal School.

GRUBE'S six divisions of the work with pure number from 100 to 1000 show the plan which he recommends, and after having given them, nothing of the peculiar features of his method remains except the teaching of fractions.

FIRST STEP.

Numbers from 100 to 1000.

Measuring by the units of the Decimal system, by units, tens, and hundreds.

Illustrations should be used. Grube recommends solid blocks divided by lines into 10 and 100 units. Squares of paste-board will answer the same purpose.

EXERCISES: $768=7$ hundreds, 6 tens, 8 units. The 8 units belong to the 7th ten of the 8th hundred; two units would complete the 7th ten, 3 tens more the 8th hundred, 2 hundreds more would complete 1000.

Analyze in this way 500, 704, 174, 714, 829, 999, etc.

What number has 3 hundreds, 6 tens, 5 units?

How many units in 7 hundreds, 8 tens, 9 units?

How many units in 1000? how many hundreds?

Written work:

$$615 = 6 \times 100 + 1 \times 10 + 5 \times 1 = 6 \quad \begin{matrix} h & t & u \\ & 1 & 5 \end{matrix}$$

$$204 = 2 \times 100 + 0 \times 10 + 4 \times 1 = 2 \quad \begin{matrix} & & o & u \\ & & 0 & 4 \end{matrix}$$

$$\text{or } 615 = 600 + 10 + 5. \quad \text{etc.}$$

SECOND STEP.

A. 200 (200; 100)

Hundreds measured by hundreds.

(Objective Illustration,—Measuring and Comparing,—Rapid Solution of Problems,—Combinations: The same as in the first part of the course.)

In the first part of the course the diagram under the number 2 was:

$$1+1=2$$

$$2 \times 1 = 2$$

$$2-1=1$$

$$2 \div 1 = 2$$

Hence the diagram of 200 measured by 100 is:

$$100+100=200$$

$$2 \times 100 = 200$$

$$200-100=100$$

$$200 \div 100 = 2$$

What number is contained twice in 200? 100 is half of what number? What number must I double in order to have 200? etc.

B. 300. (300; 100) (300; 200)

$$(300; 100) \left\{ \begin{array}{l} 100+100+100=300 \\ 3 \times 100 = 300 \\ 300-100-100=100 \\ 300 \div 100 = 3 \end{array} \right.$$

$$; 200) \left\{ \begin{array}{l} 200+100 = 300 \\ 1 \times 200 + 100 = 300 \\ 300-200 = 100 \\ 300 \div 200 = 1(100) \end{array} \right.$$

300 is 100 more than 200, 200 more than 100.

200 is 100 less than 300, 100 more than 100.

100 is 200 less than 300, 100 less than 200.

300 is three times 100, 100 is the third part of 300.

b. $300-100-100+200+100$ etc.

c. From what number can you take twice 100 and have a remainder of 100?

C. 400. (400; 100) (400; 200) (400; 300)

a. 1. Measuring with 100.

$$\left\{ \begin{array}{l} 100+100+100+100=400 \\ 4 \times 100 = 400 \\ 400-100-100-100=100 \\ 400 \div 100 = 4 \end{array} \right.$$

2. Measuring with 200.

$$\left\{ \begin{array}{l} 200+200=400 \\ 2 \times 200 = 400 \\ 400-200=200 \\ 400 \div 200 = 2 \end{array} \right.$$

3. Measuring with 300.

$$\left\{ \begin{array}{l} 300+100=400 \\ 100+300=400 \\ 1 \times 300 + 100 = 400 \\ 400-300=100 \end{array} \right.$$

4. Miscellaneous Measuring.

400 is 100 more than 300
200 more than 200
300 more than 100
300 is 100 less than 400
200 is 200 less than 400
100 is 300 less than 400

4 is contained in 4 once.

4 is contained in 400 a hundred times.

2 is contained in 4 twice.

2 is contained in 400 two hundred times.

b. $100+200+100+200=?$ etc.

c. What number is twice 100 greater than 200? etc.

D. 500. (500; 100), (500; 200), (500; 300), (500; 400), etc.

E. 600, etc.

THIRD STEP.

Mixed hundreds measured by mixed hundreds.

(This step is a variation of the preceding one. It is of course neither possible nor necessary to consider every number which consists of hundreds and tens, since all that is required here is a knowledge of how to perform the operation of comparing hundreds and tens with hundreds and tens. For this object a limited number of examples is sufficient.)

What number is 2, 3, 4, 5×110 ? $440=4 \times 110$, $=2 \times 220$, $660=6 \times 110$? $3 \times 880=8 \times 880$? $4 \times 880=4 \times 880$? $990=9 \times 110$, 3×330 ? Of what factors may 888 be considered to consist? 999?

If 333... divide 999 among themselves, how much will each part be? If 3 divide 999? If 2 divide 888?

Of what number is 120 the 3d part? the 4th? the 5th?

What number equals the fourth part of 844?

844 is four times what number? What number is contained 4 times in 844? Half of 844 is how many more than one fourth of this number?

One third of 333 is one sixth of what number?

Compare 365 with 244. ($365=3h+6t+5u$; $244=2h+4t+4u$; $3h-2h=1h$; $6t-4t=2t$; $5u-4u=1u$; $365-244=1h+2t+1u$; 365 is 121 more than 244; 244 is 121 less than 365.)

Difference between 743 and 120?

What number is equal to the sum of 743+221?

$112+113+114=?$ $659-222-124=?$ $111+212+313=?$ etc.

FOURTH STEP.

Measuring of Hundreds by Tens.

I.—a. Pure hundreds.

If $100=10 \times 10$, then

$$2 \times 100 \text{ or } 200 = 2 \times 10 \times 10 = 20 \times 10$$

$$3 \times 100 \text{ or } 300 = 3 \times 10 \times 10 = 30 \times 10$$

$$4 \times 100 \text{ or } 400 = 4 \times 10 \times 10 = 40 \times 10$$

$$10 \times 100 \text{ or } 1000 = 10 \times 10 \times 10 = 100 \times 10$$

b. Hundreds and tens.

If $100=10 \times 10$,

$$110=(10 \times 10)+(1 \times 10)=11 \times 10$$

$$120=(10 \times 10)+(2 \times 10)=12 \times 10$$

$$130=(10 \times 10)+(3 \times 10)=13 \times 10$$

$$990=(90 \times 10)+(9 \times 10)=99 \times 10$$

c. Hundreds, tens, and units by tens.

If $100=10 \times 10$, then

$$101=(10 \times 10)+1$$

$$109=(10 \times 10)+9$$

$$906=(90 \times 10)+6$$

$$814=(81 \times 10)+4$$

How many tens in 500, 900, etc.?

What number consists of 53 tens?

What number contains 9 units more than 53 tens?

How many times 10 in 660, 420, 870?

10 is the 42d, 66th part of what number?

II. Comparison of numbers.

Compare 400 with 900 as to the number of tens they contain. 55 tens are how many tens less than 600? 660? 990? 880 is composed of what 4 equal number of tens? $800+180+20=?$ $210-160=?$ 60 tens are how many hundreds? What number has 8 tens and 9 units more than 490? What number taken 87 times and 9 added to it is 879? How many tens more in 73 tens than in twice 240? The 100th part of 1000 is contained how many times in 500? One third of 630 is one-fourth of what number? The 68th part of 680+the 24th part of 240 are how many less than 10×36 ?

The exercises are followed by examples which show that the factors in multiplication are interchangeable.

$$110=11 \times 10=10 \times 11$$

$$220=22 \times 10=10 \times 22$$

$$680=68 \times 10=10 \times 68$$

What number must I take 10 times in order to get 670? 67 times?

Of what number is 67 the tenth part? What is the 67th part of 670?

How many times is 79 contained in 790? What number can be taken ten times from 790? 79 times? 79 times ten is equal to 10 times what number?

FIFTH STEP.

Measuring a number by its factors.

I.—a. (Pure hundreds.)

$$100=2 \times 50, 4 \times 25, 5 \times 20 \text{ etc.}$$

$$200=2 \times 2 \times 50=4 \times 50$$

$$300=2 \times 4 \times 25=8 \times 25$$

etc. etc.

b. (Hundreds and tens.)

$$220=10 \times 22, \text{ and since } 10=2 \times 5,$$

$$=2 \times 5 \times 22=2 \times 110, \text{ and since } 22=2 \times 11$$

$$=10 \times 2 \times 11=10 \times 22 \text{ etc.}$$

c. (Hundreds, tens, units.)

$$426=(10 \times 42)+6$$

$$=(4 \times 100)+26 \text{ etc.}$$

II. What is the difference between 980 and 377?

The difference between 980 and 377 is three times what number?

By what number must I divide 365 to obtain five?

What difference between the 22d and the 30th part of 660?

SIXTH STEP.

Reduction of numbers from 1 to 1000 into their elements. It is immaterial in what order the numbers are considered, or what numbers are taken up; the practice alone which these exercises afford to the pupil is important.

A pupil who has done the work of the previous course will be able to separate a number into its parts quickly and accurately. The teacher gives the number and the pupils separate it orally or in writing.

360.

$$300+60$$

$$(3 \times 100)+(3 \times 20)$$

$$180+180$$

$$3 \times 120$$

$$200+160$$

$$10 \times 36$$

$$320+40$$

$$5 \times 72$$

$$336+24$$

$$20 \times 18 \text{ etc. etc.}$$

etc.

Division of the work according to Grube:

3d year, 2d quarter: Compound numbers, money, weights, measures.

3d and 4th quarters, oral and written work: Numeration, Addition, Multiplication, Subtraction, and Division with any number according to the usual methods of analysis.

4th year, 1st term: Object lessons in fractions, on the same plan as the lessons with the numbers from 1 to 10 at the beginning of the course.

2d term. The four processes with fractions.

Leaving the work with whole numbers, after having considered compound and applied numbers in the second quarter, and passing over the four species whose treatment is about the same as can be found in any other arithmetic, we shall find again an original and peculiar application of Grube's idea in the teaching of fractions.

The pupil is expected to take up this subject in the fourth year of the course after having acquired some knowledge of fractions by previous instruction.

"In the same way," says Grube, "in which the pupil arrived at the perception of whole numbers by measuring them by the smallest unit, fractions are now explained to him by comparison with and reference to the number One from which they have arisen."

2. "While the number one has appeared so far as a part of other numbers, it is now considered as a whole, which consists of parts. The latter in relation to this whole are called fractions."

3. As the pupils have already learned to look upon whole numbers as parts of larger numbers, the following method of teaching fractions will offer no special difficulty, since the process is the same as the one which has made them familiar with integers, and which consists in the perception of the manifold relations of the number which is being taught.

[To be Continued.]

It is strange, very strange, that our churches take no more interest in public instruction. Some of them attack the common schools, some of them are indifferent to them, and none seem to regard them as a supreme point at which life is to be poured into the community. Our churches seem to think it their chief office to care for themselves—as if self-seeking were any better in them than in the individual—and not to construct a Kingdom of Heaven, a true Commonwealth of Christ. The real umbilical artery by which the parent power of righteousness is to pour its life-blood into the state, always embryonic through its children, is this very avenue of public instruction. Not to know this is to have no message, no gospel for the poor. The commonwealth, the commonwealth, are mere words to us as yet; the injunction, "Love thy neighbor as thyself," as far off from our thoughts as the polar star—yet it is the polar star, and lies in the very axis of revolution in the spiritual world."

—*Pres. John Bascom.*

REVIEWS.

The Normal Higher Arithmetic, designed for Common Schools, High Schools, Normal Schools, Academies, etc. By Edward Brooks, A. M., Ph. D. Principal and Professor of Mathematics in Pennsylvania State Normal School, and author of a Series of Arithmetics, an Algebra, and a Geometry and Trigonometry. (Philadelphia: Sower, Potts & Co. pp. 514. Price \$1.25.)—This book is evidently the product of much study and labor, and contains enough matter for a whole series of arithmetics. Its name—"Normal Higher"—is not exactly suited to its character. It is "designed for" too many different kinds of schools,—“common schools, high schools, normal schools, academies, etc.” The first 56 pages are occupied with matter which is superfluous for any except the common school student, being devoted entirely to the elements of arithmetic—the ordinary operations of the Fundamental Rules. A very large number, also, of simple exercises are found in Fractions, Denominate Numbers, Percentage, etc. There are, however, especially in Fractions, many excellent examples somewhat more intricate than would be admissible in an elementary work. Twenty-five pages are devoted to the secondary operations, such as Composition, Factoring, Greatest Common Divisor, Least Common Multiple, and Cancellation. This fullness of treatment throughout renders the volume bulky and cumbersome. In our opinion it would be better to omit entirely, or pass with a mere notice, such subjects as Perfect and Imperfect Numbers (1 p.) and much more of the twenty pages devoted to the Properties of Numbers, Circulating Decimals (14 pp.), Continued Fractions (3 pp.), Medial Proportion (Alligation) (7 pp.), and a considerable number of the special methods. Of the latter class are the "New Method" and "Horner's Method" of extracting the cube root, a process rarely useful to any body, even the mathematician, as he always uses logarithms.

Although it is the custom among authors of arithmetics, and the tendency exists in other text-books also, to sub-divide subjects in a mechanical way into numerous cases, yet it is a practice to be deprecated, especially in a book for advanced pupils, who should be taught the application of general principles, rather than have the subject broken up into special processes. For instance, the subject of Reduction in this book is presented by six cases in Reduction of Common Fractions, three cases in Decimals, two cases in Reduction of Integral Denominate Numbers, and six cases in Reduction of Fractional Denominate Numbers, or seventeen in all, spread over as many pages, while the general principle which covers all conceivable cases in arithmetical reduction is that, *If the unit in which the quantity is expressed is made smaller, the number representing the quantity is made proportionally larger, and vice versa.*

On the subjects treated, this arithmetic is specially full in the number, and with some exceptions, in the variety of the examples given. There is a large amount of valuable information incidentally given, especially upon the Business Rules, and so far as we have observed it is quite reliable. The presentation of the language of arithmetic, and the principles of Notation, is excellent. The author's statement that in Division the divisor and dividend are always similar, and that the quotient is always an abstract number, raises a question for discussion.

An admirable feature of the book is found in the historical notes which are introduced quite freely.

A more satisfactory practical arithmetic for schools, especially graded schools, is the *Normal Union Arithmetic*, which is pub-

lished in three parts. Part I. is a Primary Arithmetic, designed as "an introductory course in the science for beginners." "Part II. begins at the beginning of arithmetic and extends as far as Percentage." "Part III. begins at Percentage and finishes the course in arithmetic. These two parts are also bound in one volume for those who prefer the book in that form." These "parts" are called "Union" because an effort has been made to combine mental and written arithmetic in one book.

The advantage of having the parts bound separate is evident to every teacher of a graded school, and the division between Parts II. and III. is made at just the right place. By this arrangement the pupil is compelled to buy and then to handle only that portion which he needs to study. This is the plan now adopted by several authors of arithmetics and has been generally approved by teachers.

SOME OF THE FRESHEST AND BEST THINGS.

[From the Reports of the Michigan State Teachers' Inst., held at Lansing, July 9-13, 1878.]

THE sessions of the Institute were opened on Monday evening, July 9, by an address from President Angell, of the State University, on "The Science of Political Philosophy." The following is an abstract prepared for the *Lansing Republican*:

He defined it to be the origin, organization, and functions of the state. While not, as teachers, essentially politicians, we are nevertheless citizens, and are under obligations to be useful as such. Our work should be conducive in the highest degree to the public good. Any man who takes up this study finds himself in the loftiest and most inspiring companionship. All human histories and experience bring their contributions to this subject. Any man who dogmatizes falls miserably short of the height to which every student should aspire. The wise building of a state is the art of arts. The ethical and religious life of the world cannot be separated from the civic. He who can wisely lift the pillars of the state on sure foundations is indeed of a higher order of architectonic genius than he who rears a pyramid, or parthenon, or cathedral.

Simply as an intellectual and moral effort the history of the philosophers of the ages deserves perpetuation in the hearts of the people. One age cannot settle the problem of government for another. Each must take them up and grapple with them and settle them for itself. Comparison argues a decline in the status of political literature. The addresses of Adams and Jefferson, the state papers, or the press even, of a century ago, show a decline in the spirit which has borne the strain of 100 years of peace and war.

New and portentous questions are beginning to confront us. The problems raised by the existence of dense populations of discontented or dangerous men have heretofore not seriously pressed upon us. But a new state of things is upon us. The limit to our supply of free lands is in sight. A variety of causes has led to the stagnation of many of our industries. In this land of plenty, men, women, and children are learning what it is to want bread. Thousands of uneducated and suffering foreigners are crowding our cities and our mines. The highways tremble beneath the tread of tramps. Unscrupulous leaders, reckless socialists, and communists are preaching their pestilent doctrines far and wide to throngs only too eager to learn that their wants can be supplied by some easier method than work. Not alone in Berlin are greedy eyes fixed on the treasury of capital, and looking for a distribution among all. Not alone in Paris is the torch of petroleum kept ready for its diabolical work. Unpleasant murmurings and menaces are heard everywhere.

The experiences of last summer have given us a faint warning of what is possible; and American demagogues have not been slow to join in stirring the unreasoning passions of these thoughtless and desperate men and women who have come to regard civilized society as their enemy and oppressor.

Many other grave problems of statesmanship are also upon us. The relation of state to federal government, the question of Asiatic—especially Chinese—immigration, the best method of electing president, and the graver question, whether his title shall stand unchallenged when he is declared in due form of law elected, and solemnly installed in office. The address closed with an earnest appeal to teachers to rise to the dignity of their duty as teachers of a true and lofty statesmanship. The men who are soon to rule are to-day plastic in our hands, as clay in the hands of the potter.

Very brief synopses of the lectures given by the several instructors were also prepared for the same journal. We extract the following outline reports of the two valuable lectures on "The Science of Teaching," by Supt. W. H. Payne, of Adrian:

I. A science implies a correlative art. Art gives a knowledge of facts; science a knowledge of principles, laws, causes. Art tells what and how, science why we do. Art sees cause and effect; science, in addition, the route by which cause leads to effect. Science gives the power of prevision and of revision, the power to invent and construct. Every how has its why. There are certain principles or laws which underlie the art of teaching. Some advantages which would arise from a knowledge of them are a safe and continuous progress in the art of teaching; teachers would become invested with certain inalienable rights, prerogatives, and privileges; teaching would offer to men of talent a profitable field for the exercise of their skill. This science is to be learned best at the normal schools.

II. He enunciated the following general law: "In the elaboration of its knowledge, the first effort of the mind is analytical." We grasp a landscape first as a whole, and afterward as made up of parts. We do not first see the parts, and afterward arrange them in the mind to form a complete whole. The tendency of the mind is analytical; synthesis comes afterward. Analysis and synthesis together make a complete operation of the mind. This being the natural tendency of the mind, we should in the study of geography commence with the earth as a whole; study the globe as a representative of the earth; note its divisions into land and water; the divisions of water into oceans, seas, lakes, etc.; of the land into continents and islands; of the continents into countries; and the countries into states, counties, towns, etc. Learning to read, upon this principle, should commence with the sentence and afterward with the words and letters. A law derived from the above general law is that the earliest instruction should be given in the concrete, but as the child grows in experience and mental power, instruction in the concrete may be superseded by instruction in the abstract. A law bearing the same relation to government that these do to instruction is that in the child the governing force is from without, rests upon authority; in the man it is within, and rests upon principle.

Some of the best things were presented at the close of the Institute. The final exercise was an essay, with running remarks upon "Physiology and Hygiene," by Principal E. A. Strong, of the Grand Rapids high school, from which we are permitted to extract the following:

"It is my belief, confirmed by experience and by careful observation, that school life, as now conducted, really tends to health and longevity. I am not sure of all this for all conditions of society and for all grades of schools; but I believe it to be true beyond question that the public health is subserved by the attendance at school, essentially as now, of pupils between the ages of eight and fourteen years.

"Some of the worst things about our school-rooms are such as cannot be proved to be evil by any immediate bad effects. What we need to think more of is a wrong physical bias or tendency, a permanent set of character in a wrong direction. Imagine the forces of the school-room to act upon the race for two hundred years, generation after generation; and is there reason to believe, in the nature of the case, or on historical grounds, or on analogical grounds, that the race will be injured by these forces? This is the test. A servile habit of mind, a silent habit, a habit of repression and concealment, an indoor habit of life, a dislike for active games, a bad way of walking, of standing, of sitting, especially of breathing, may be full of important consequences to the race. We teachers need to take a broad view of this matter, and not congratulate ourselves too warmly when we can look about us, and see no immediate and serious ill-consequences resulting from school life and habits. Let us be satisfied only when we are sure that the race is not deteriorating at our hands.

"We need to train more for vigor—for moral vigor, for mental vigor, for physical vigor, so that as slow changes come to the race—and come they must; as it becomes more intellectual, more refined, more artificial and complicated in respect to life and habits, we may still see something of the vigor of the old Norse kings, of the Puritan fathers, of the Revolutionary patriots.

"SUGGESTIONS TO TEACHERS.—1. Let him not overwork. It is not possible for him to bring himself to the eight-hour system, but let him keep out of the eighteen-hour system.

"2. Let him work naturally and freely. A teacher is often worn out by the sliding friction of his work, when rolling friction would save him. A hollow cheek is often symptomatic of an inflated and hollow character. To maintain an appearance of dignity when there is no sense of internal dignity, a

show of work when there is no real work, a whipped and bubbling froth of feeling when there is no genuine current of feeling, costs the life of many a teacher. Let us be simple, and natural, and genuine, looking always at our work and not at real or supposed spectators of our work.

"3. Cultivate an apathetic habit of mind, in the genuine sense of the word. Let there not be overmuch of the emotional element in teaching. Let the intellect be active; let the sensibilities rest—at least let them not be enormously overworked.

"4. Let the teacher secure to himself an hour or two before sleep, in which he shall withdraw thoroughly from the work of the day and abandon himself to the play-element of our nature.

"5. The question of the food supply is fundamental. The teacher cannot give too earnest attention to it.

"a. Beware of the early, hearty, rural breakfast. The first meal of the day should be moderate in quantity, and of light, nourishing food.

"b. Do not eat, at any time, or under any circumstances, food which in your case has always proved to be indigestible.

"c. Finally, let a teacher divide his duties into routine work and original work. The first sort can be followed for hours without fatigue; the latter begets a sense of prostration and utter weariness in a very short time. Let the teacher put his routine work in the neighborhood of his hours for meals, his original work when the work of digestion is over.

"The teacher is, by virtue of his office, a practical hygienic reformer. The school board and people will act with him, as soon as they see that he is in earnest in securing for their children the conditions of a pure, wholesome life."

NOTES ON THE INSTITUTES.

—The *Kendall County Record*, Yorkville, Ill., says of the Institute at that place: "Out of nearly three hundred applicants for teachers' certificates in this county, all of whom have been especially invited, only fifty are in attendance, and directors should consult the list of names below, when they want a teacher. These are the ones who have energy and pluck, and use every means in their power to better fit themselves to be educators of the young."

—The Ottawa County Normal Institute, Kan., issues a daily paper called *The Normal Institute Record*. W. W. Hooper, Mrs. Lucy B. Johnston, and Mrs. D. R. Crosby are editors. About fifty teachers were enrolled at the institute the first day. R. L. Hillman, county superintendent, is manager. He is a very successful worker.

—The Drill at Galesburg, Ill., opens well. About sixty have already registered; more have engaged board.

—J. W. Mercer is assisting at Gibson, Ill. Over 70 are enrolled.

—Twenty teachers are in attendance at a private "normal" conducted by J. R. Kirk, Bethany, Mo. Prof. Kirk will work in the institute at Hiawatha, Kansas, beginning August 5, and ending August 31.

—D. T. Stewart and T. S. Moore are teaching in the institute at Robinson, Ill. Geo. W. Henderson, county superintendent. About fifty teachers in attendance.

—The institute at Charles City, Iowa, numbered 100 the second week. A good work was done there. T. H. Smith was conductor, G. H. Nichols county superintendent.

—At Blair, Nebraska, about 50 teachers assembled at the opening. State Supt. Thompson lectured on the evening of July 18,—subject, "Industrial Education." Prof. W. E. Wilson, of Chicago, is conductor. Prof. I. N. Jones is county superintendent. J. W. Benner is secretary of the institute.

When a community can find no other means of economizing, except by reducing the salaries of its teachers, it must be brought to great straits. Why is it then that the teachers' salaries are the first to be attacked, when retrenchment begins? Other office-holders, doing next to nothing for the public good, receive twice the sum of money paid to any principal of any city school, but no one says they get too much. Why is this? The cause, primarily, is found in the fact that the number of teachers is greatly in excess of the demand, and also the people generally do not know the difference between a good school and a poor one. If a school is orderly and jogs along in the well-worn ruts, it satisfies its patrons, for the quality of its instruction is seldom examined. The people are contented as long as they are not troubled, and the salaries are low. The multitude of applicants for the teacher's place would be greatly diminished, if there was a clearer knowledge in reference to the qualities of a good school. Communities need educating on this point.

—*National Teachers' Monthly*.

Educational Intelligence.

EDITORS.

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 Michigan—Henry A. Ford, Kalamazoo.

The East—Prof. Edward Johnson, Lynn, Massachusetts.

The South—Prof. Geo. A. Chase, Principal Female High School, Louisville, Ky.

Orders for subscription may be sent to the above editors, if preferred. Items of educational news are invited from superintendents and teachers.

CHICAGO, AUGUST 1, 1878.

WISCONSIN TEACHERS' ASSOCIATION HELD AT GENEVA LAKE, JULY 16-18, 1878.

TUESDAY Evening, July 16.—The Association was called to order at the Opera House in Geneva by the President, James MacAlister, of Milwaukee. Hon. J. B. Cassoday, of Janesville, was introduced and gave a lecture before the Association. Subject, "Educated Statesmen."

Wednesday Morning, July 17.—The exercises were opened by prayer by Prest. A. L. Chapin, of Beloit College. A. A. Miller, of Waukesha, was elected secretary for the session. Messrs. T. F. Frawley, W. J. Brier, and E. Dewey were appointed a committee on the enrollment of members, the chairman to serve as railway clerk.

Mr. MacAlister deferred the reading of his address on "The Relations of Education to some Scientific Problems," and, instead, discussed the present condition and prospects of the educational interests of the state. He commenced by laying down two propositions which he regarded as demanding the most careful consideration at the hands of educators: 1. The fact that man is the product of evolution. This was true of man taken individually as well as when regarded socially, and the great need of the time was that this law—for such it must be regarded—should be recognized in all education, and its work coordinated to the successive stages in the development of his nature. 2. That our education should be made more practical. He did not sympathize with the foolish demand now so rife that all common education should be reduced to the learning of the three R's. That was not in the direction of practical reform. What he insisted upon was that the schooling of children should be speedily adapted to suit them for the actual work of life. This would require the omission of some branches now considered as essential, and the introduction of others that did not enjoy that confidence of the public to which they are justly entitled. He mentioned under the first-class, Algebra, and under the second, Free Hand Drawing and Music.

Mr. MacAlister then classified the educational institutions of the state under the four heads of 1. Common Schools; 2. Secondary, or High Schools; 3. Normal Schools, and 4. Colleges and University. Each of these was passed rapidly in review, and the reforms needed to render them more efficient and satisfactory were indicated in a comprehensive way.

Mr. A. F. North, of Pewaukee, presented a paper on the "Just Limitations and Conditions of the Control and Support of Education by the State." Discussion.

Mr. Cornwall, of Albion, said that when a lad can read, write, and cipher, the state has nothing more to do with his education. Beyond that, education is private property; he is not opposed to higher schools; there is too much expense connected with the higher school system. One man gets more salary than it costs to run a successful academy. It costs more to grease the axle of the Normal School Board than to run a good school.

Mr. Emery thought the high schools were under the supervision of the state.

Prest. Chapin said that the actual cost of a collegiate education is above the reach of nine tenths of the youth of the state; relief must be had. This is what is meant by endowments. Private endowments have relieved the denominational schools. He saw no impropriety in allowing the state to help public education. But should it be free? Europe has hit the case better. Small endowments and small fees, as a matter of political economy; he objects to taxing all for the benefit of a few. He declares his entire dissent, based on thirty years' experience and observation, to any antagonism between the University and private colleges. He wants the work well and thoroughly done in both. He believes in the principle of competition. Let each stand on its merit. He is more jealous of that influence which sends our young men out to New England for an education. He believes we can do the work here as well. Graduates will compare favorably. Can graduate at a college here and travel a year in Europe for what it costs at Yale or Harvard. He does not think public support should yet be withdrawn.

Prof. Rockwood.—The formulas used for centuries in speaking of govern-

ments in foreign lands are used in criticising home government and its work;—our government is another and different thing from those. The government is the people, acting in a certain manner for themselves. It is not a paternal abstraction acting on the people, but the people themselves. This destroys the reasoning of the first half of the paper, and the twenty educated at public expense are deemed an equivalent, by the people, to the one thousand who cannot graduate.

Prof. Kerr was the only representative of the University faculty present. He is proud that he is a graduate of Beloit. As a University man he says, "Live and let live." God speed to all. It takes brain power to run a farm. He hopes that his son, after his Greek and Latin, will try to get honor in agriculture.

Prof. Wood.—A fallacy is that an education is private property. An educated man gives back to the state more than he receives. It deprives no one of anything, nor is generally profitable in dollars and cents to its possessor; but if the state receives the advantages of inventions and progress, the state should pay it back to the poor and needy student.

Supt. Whitford—deems the paper of Mr. North more a criticism on certain institutions than an exponent of any great principle. The state does exercise supervision, and a careful one, too. In his statement in regard to extraordinary expenditures of University funds, his figures do not represent the facts. Part is expended in building, in books, in other general uses. What the state and United States furnish are endowments given for these special objects. The present policy in regard to tuition is not a policy established, but an experiment. An attack on our higher education is a dangerous experiment, because the argument would destroy our common schools.

Mr. North.—The state does not examine the high schools. The county superintendent looks at them; the State Superintendent cannot examine them. Colleges have received endowments from voluntary effort, from a sense of duty. But the states will weaken this feeling by assuming this as a duty. The question is, What should the people authorize the state to do? We are not inimical to higher education, but we ought not to pay for these advantages. The reward should not be measured by dollars and cents.

Prest. Chapin moved that a committee, consisting of Messrs. Chandler and Salisbury, be appointed to make arrangements for a trip on the lake in the afternoon. Carried.

Supt. Shaw read the paper of Prof. Carpenter on "Spelling Reform." Discussion:

Mr. Maxon heartily endorsed the paper, and spoke for the Reform Association. There is need of harmony, if action is necessary. The Association has been under the charge of the best philological scholars of the land. Their work cannot be changed for light cause. Let each sacrifice some pet notion for good of all. He has taken interest in this work of reform in spelling, and hopes it will meet with support of all.

A. O. Wright.—It is not necessary to discuss the need of reform. Our alphabet is the same as that used by many other countries. We should, therefore, make our reform on a basis of no change in the alphabet, but that the spelling of the language should be reduced to few rules not necessarily phonetic. Let us make the reform as easy as possible. Had we no alphabet; were our alphabet used by no other nation, we could organize on a better basis.

Prof. Rockwood then read a memorial of the Philological Association to Congress in behalf of spelling reform, asking a commission to examine into the question and determine what can be done in the United States to bring about the reform.

Prest. Albee, member of the State Commission, was called on. He said this part of the work had fallen to G. H. Paul, but he could speak as a teacher. If the facts alleged are true, no more important question can come before us. Think the task of putting in all these diacritical marks in our manuscripts, would be a great task. We could learn the new characters of a new alphabet much easier than we could learn and make all these marks. He preferred a new alphabet.

Thursday Morning, July 18.—The "History of the Association" by Prof. Albert Salisbury was accepted to be furnished to paying members free of cost and to other persons at an expense of ten cents per copy. Mr. Reynolds moved that a committee of five be named to take charge of the Exhibitory Department next year, also a committee on nomination of officers.

Mr. Cummings, of Sparta, read a paper on "School Discipline." Miss S. A. Stewart read a paper on "The Relations of the Kindergarten to the Public School." Discussion:

Mr. Reynolds said the paper was so excellent that we cannot afford to spoil the effect by discussion. He moved the paper of Miss Stewart be requested for publication in the *Journal of Education*. Carried.

Mr. Cornwall thinks our schools are a pyramid on its apex, \$400 for the primary teacher with 100 pupils, and \$1,800 for a principal with 30 pupils.

Mr. North—had been to Milwaukee to see the Kindergarten work. The regular teacher was absent, and was replaced by a substitute from the Normal. The conditions were favorable to see how the system would work in ordinary schools. He thinks this school was an asylum for the fashionably neglected children, and the children of the overworked. The results would not be equal to those wrought out by the mother having the proper feelings and right training. The mother can do the work better. Nor was it fitted for country schools, but a modified form might be introduced in primary departments of city schools.

Mr. Richardson would emphasize some points in the paper of Miss Stewart. This work can be better done at home, but can we therefore leave it out of our school? We have to take the children as they come, with or without preparation.

Mr. Schilling of Delavan.—The mother cannot do all this work. The

state ought to do something to help the mother keep these children out of the street. It is cheaper to do this than pay \$40,000 a year to the Reform School.

Mr. MacAlister stated that the fees at a private Kindergarten in the most favorable part of Milwaukee were \$30 per year. Even with these advantages the school lacks adequate support.

W. H. Chandler wishes to say, as a representative of a department of state education, that no department of educational work is more sensitive to the opinion of this Association than normal school work. The Board have not yet determined to go into Kindergarten work, nor will they until there is more unanimity in its favor. The normal schools derive their support from lands in the sparsely settled and remote parts of the state. But for these parts of the state the Kindergarten is unfitted by confession of its friends. There is but one point where such a section could be attached to normal school work, with any hope of success. Any delay on the part of the Board to adopt this experiment would be the result of judgment, and not of disrespect to the opinion of this body.

Mr. Albee.—Water will not rise above its source. Primary and common schools cannot work up material to teach and manage common schools. They must have a higher education. Graduates of colleges and high schools are often failures in primary work. The school drill for teachers should bring the pupil teacher down into close contact with child nature. These teachers must be taught fatherhood and motherhood. Cannot the state do something to secure this help, to bring these young teachers closer to their work?

Miss Stewart.—There is always difficulty in moving large bodies. Of this we do not complain. But we do complain that the board have not made this subject an ultimate object. They have not prepared for it. There will be but little additional expense. This will be but bringing the normal school down a little nearer the primary. Every graduate should be able to reach down to every child and raise it up through all the grades.

Prof. Kerr read a paper on "Standards of Admission to College." The paper was then discussed.

Mr. Shaw, Madison.—The two years in the classical sub-freshman represent our high school course of three or four years. Less work is required in the general science course. The grammar school student can go into the scientific sub-freshman. This is an unjust discrimination.

Mr. Reynolds.—One fallacy west of the Hudson is, that numbers—not culture—make the school. He is an inflexible friend of classical education.

Supt. Whitford thinks the scope of the high school is not generally rightly appreciated. It is to fit for life work and not for college. Of the 4,600 teachers in the institutes, 2,100 were prepared for their work in the high schools.

Mr. Cornwall opposed higher education by the State.

Mr. Albee asked Mr. Kerr whether a more rigid examination is given on those branches the pupil will not study in the University than in those he will continue. Answer, yes.

Mr. Kerr.—You cannot judge of the character of a college by its entrance examination. It is hard to get into some colleges but easy to stay there.

The following committees were appointed: Exhibitory Department.—R. W. Burton, Janesville; M. T. Park, Oshkosh; W. H. Richardson, Milwaukee; A. Kerr, Madison; W. A. Walker, Manitowoc. Honorary Members.—J. Q. Emery, Ft. Atkinson; W. H. Chandler, Sun Prairie; S. S. Rockwood, Whitewater. Resolutions.—W. H. Beach, Beloit; A. F. North, Pewaukee; J. B. Thayer, River Falls. Nomination of Officers.—A. J. Hutton, Eau Claire; W. A. Walker, Manitowoc; D. H. Flett, Elkhorn.

Thursday Afternoon.—On motion the rules were suspended and Prest. W. D. Parker was elected permanent Railway Manager for the Association. The "Report on Course of Study for Mixed Schools" was read by State Supt. Whitford. The other members of the committee were W. H. Chandler, R. Graham, W. A. Walker, and S. Shaw.

A paper on "The Metric System" was then read by S. S. Rockwood of Whitewater Normal School.

A paper on "The Signal Service," prepared by Seargt. S. W. Rhode, of Milwaukee, was read by Mr. Richardson.

Short reports of the Condition of Education.

Mr. Wood, Oshkosh.—School matters seem to be going well. An attempt has been made to throw out the classical and higher branches. This could not be done. The people support the high school.

Mr. Roby, La Crosse.—There was opposition to high school—resulting in the building of a high school building worth \$23,000.

Beach, Beloit.—Slowly increasing the range of studies. Expects a class of girls in Greek next term.

Kinney, Darlington.—Interest high and growing. Value of school house greater than of all the churches. Common schools in neighborhood better than often represented in other places.

Miss Clapp, St. Croix Co.—Schools are doing well. Have three aims. Visiting Schools. Instructing people in the work. Education of teachers.

Harvey, Sheboygan.—High school consists of young pupils. Best work must be done in lower rooms. 3,000 children of school age—1,120 in schools.

Committee on nominations reported, and the report was adopted as follows: Vice Presidents, A. O. Wright, Fox Lake; J. H. Cummings, Sparta; Miss Betsy Clapp, St. Croix.

Secretary, A. A. Miller, Waukesha.

Treasurer, T. F. Frawley, Eau Claire.

Board of Counselors, James MacAlister, Milwaukee; G. S. Albee, Oshkosh; D. McGregor, Plattsville; W. A. Walker, Manitowoc; H. C. Howland, Eau Claire.

The following honorary members were elected:

Hon. J. B. Cassody, Janesville; Rev. Geo. T. Ladd, Milwaukee; C. E. Buell, Esq., Geneva Lake; Dr. G. E. Catlin, Geneva Lake; Prof. W. J.

Warner, Geneva Lake; A. F. North, Pewaukee; E. H. Sprague, Esq., Elkhorn; Serj. S. W. Rhode, Milwaukee; Prof. Piper, Sterling, Ill.; Prof. Freeman, Rockford, Ill.; James Hannan, Chicago, Ill.; Prof. Bridges, Elgin, Ill.; Prof. L. B. Dodge, Oak Park, Ill.

The Executive committee was instructed to publish the papers and proceedings of the session in the *Journal of Education*.

Mr. Emery presented the following resolutions, which were adopted:

"Resolved, That the Board of Regents of Normal Schools are hereby respectfully requested to take into consideration the advisability of establishing a Kindergarten in some one or more of the State Normal Schools."

Resolved, That the President of this Association be requested to forward a copy of the above resolution to the President of the Board of Regents for Normal Schools."

The usual resolutions were reported by the committee and adopted by the Association.

A. A. MILLER, Secretary.

THE STATES.

ILLINOIS.

—Mary Allen West has a long and very interesting letter in the *Galesburg Republican-Register* describing her trip to the summit of Mount Washington.

—In speaking of James P. Slade as candidate for State Superintendent, Miss West says: "Not the least of his qualifications is the fact that a year or two ago he married one of the loveliest women of Illinois, who will prove a fitting help-meet to him in the work which, next November, the people of the State will entrust to his hands."

—J. T. Dickinson goes from Chatsworth to the chair of Mathematics at Hedding College, Abingdon.

—Miss Mary Allen West was secretary of the Evening Session of the American Institute of Instruction, held at the summit of Mount Washington, July 10. She also told the Institute something for the benefit of New England respecting the county superintendency and teachers' certificates in Illinois.

—Rev. J. G. Evans, A. M., has been chosen president of Chaddock College, Quincy.

—Twenty-seven teachers were present at the Winona Illinois Normal Institute the first week. All are earnest, faithful workers, and express themselves greatly benefited by the instruction. The conductors are men who have charge of graded schools in that section, and who believe in honest, faithful work without much show.

—The Ogle county drill for teachers commenced July 30, and closes August 23.

—The Crawford County Normal Institute opened the 8th ult., at Robinson, with an attendance of thirty-seven, nearly all of whom are teachers. The session will continue eight weeks. Supt. Henderson having other engagements, the management of the school has devolved upon D. T. Stewart, who is assisted by Thos. S. Moore. These gentlemen are successful teachers, and will do excellent things for the teachers of Crawford County.

—The superintendent at Elgin is to receive \$1,100, the high school principal, \$320.

Four graduates at Minooka. Diplomas furnished by the WEEKLY. F. W. Ford is the principal, engaged for another year. His assistant, Miss Lulu M. Marshall, is also re-engaged.

—"Wells, of Ogle," has returned from his European tour. He is welcomed back by a large number of friends.

—State Supt. Etter was taken seriously ill with neuralgia of the heart while attending the teachers' institute in Jackson county, and it was found necessary to remove him at once to his home in Springfield. We understand that he is now at work again.

—In the WEEKLY of July 4, we stated that R. L. Barton had been engaged as principal of the Rossville schools at a salary of \$600 for seven months. We should have said that he is to receive \$800 for seven, eight or nine months.

—The teachers of Paris, one and all, have been reelected, and unanimously too. After careful consideration the Board decided to make no reduction in salaries. The Superintendent receives \$1,500, and the assistants from \$700 to \$250. Of the eighteen teachers employed, one has taught in these schools nine years; two, eight years; one, seven years; one, six years; two, five years; three, four years; two, three years; three two years; three, one year. The above speaks volumes for Mr. Harvey's work. He has been reemployed for his eighth year.

—The Ford County Institute began a three weeks' session at Gibson the 15th ult. It is under the management of Supt. Armstrong. In a county which has but ninety schools, Mr. Armstrong has worked up so high an interest that this institute—the first ever held in the county—has an attendance of seventy. Miss Raymond, Supt. of Bloomington city schools, Mr. Evans, of Champaign, Mr. Mercer, of Walnut, and the Supt. are doing the instructing.

—Dr. Lamb, principal of Vermillion academy, died July 13. He had been connected with the academy for two years.

—The School of Natural Science, held in the State Laboratory at Normal, under the direction of Professor Forbes, has been of unusual interest; several prominent teachers have been in attendance and all are delighted with the facilities for work and the methods employed. Prof. Morgan, of Wheaton; Prof. Beardsley of Cornell; Prof. Sweazy, of Beloit, and others have attended through the session. Prof. Seymour has conducted an exercise in laboratory work in chemistry each day. Prof. Burrell has been present a portion of the time, Prof. Beardsley all of the time, and Professor Forbes

Practical Hints and Exercises.

A PROGRAMME.

The following programme was in actual use in the district school at this place last spring.

No. of scholars enrolled, 49; average daily attendance, 35; length of school term, 8 months; number of grades, 5; in 1st grade, 12 pupils; 2nd grade, 7; 3d grade, 11; 4th grade, 8; 5th grade, 11. German the language of the neighborhood or settlement. Instruction conducted in English.

FORENOON.—Reading exercises, 8:30, 2d grade; 8:45, 1st grade; 9:00, 5th grade; 9:25, 4th grade; 9:40, 3d grade; 9:55, 1st grade; 10:10 5th grade, geography. Recess 25 minutes. 10:45, 2d grade, reading; 11:00 1st grade, reading; 11:15, 3d and 4th grades, geography; 11:25, 5th grade, grammar; 11:40 1st grade, oral arithmetic; 11:50, 2d grade, oral arithmetic.

NOON. Recess 1 hour.

Exercises in written arithmetic at blackboard, 1:00, 2d grade; 1:20, 3d grade; 1:40, 4th grade; 2:00, 5th grade; 2:20, 1st grade. Recess 20 minutes. 2:50, slate exercises in writing, spelling, and translations of German into English; 3:20, 3d grade, reading; 3:30, 2d grade, reading; 3:40, 1st grade, reading; 4:00, dismissal.

Text books in use: McGuffey's 1st, 2d, 3d, and 4th Readers; Goodrich's History; Clark's Brief Grammar; National Speller; Monteith's Geography; and Ray's 3d Arithmetic. The history is used as a reader and for recitation. In the first four grades, reading includes spelling and definitions by giving and instructing in the corresponding words in German. The reading exercise of the first grade is written on the blackboard to be copied on slates. No German allowed to be spoken by scholars who have made any progress whatever in English.

Respectfully yours,

WILLIAM J. HUFF.

Cappeln, Missouri.

ANOTHER PROGRAMME.

Opening exercises, which may consist of repeating in concert the prayer, psalms, and singing, 9 to 9:15. B class studies, A class reads, 9:15 to 9:45. The lesson should be so short that each scholar can read the whole of it. Should the class be large and the lesson become too familiar, alternate by reading backward then forward. The new lesson given should be read each sentence by teacher first, then class; in that way they will catch the inflection and pronunciation. Books closed. The teacher writes the new lesson on the board, the class dictating each word, the use of capitals and pauses. Teacher takes pointer, points to letters, class names them; points to words, asks their meaning, calls attention to sounds of same letter in different words. The class may read whole lines backward, the whole lesson; this is of great benefit in teaching children to call words readily at sight. The old lesson is now reviewed, each word spelled by letter and sound, the meaning given, any and all questions asked that may be suggested by the lesson. At each lesson aim to exhaust it.

A class takes slates and writes numbers for addition and subtraction as dictated by teacher, 9:45 to 9:55. Physical exercise, 9:55 to 10. A class takes slates and adds and subtracts. B class reads, 10 to 10:30. Same drill as in A class. Recess, 10:30 to 10:45. Repeat in concert the 2's, 3's, 4's, etc., to 100. Numerals to 75, 10:45 to 10:55. B class takes slates and writes reading lesson from board, each slate being ruled; the rules for writing having been taught, children readily learn to write evenly and correctly. Should writing lesson be finished before other work is given, they may write the 2's, 3's, 4's, etc., forward and backward to 50. Numerals to 25. A class having added and subtracted numbers, the teacher may call upon some one in the class to stand and add the units of the first example given. Mistakes noted by class. The tens added by some other one, and so on. The whole answer may be given by one adding last column. Those agreeing raise hands; if right, slates of those who differ marked. Should there be any in the class who fall below the average, special drill may be given them, while those who have examples marked may correct them. A miscellaneous exercise combining numbers, teaching the use of signs, thus: $7+6-3+4-5=9$, and the expressing of numbers by numerals, thus: $160=CLX$, $8=VIII$, will be now given, 10:55 to 11:20. Physical exercise, 11:20 to 11:25. A class writes reading lesson from board, while B class has drill in the writing, adding, and subtracting of numbers. They may be taught to add and subtract at first by means of blocks, abacus, then using slates, 11:25 to 11:45. General lesson, 11:45 to 12. Teaching lines and angles, forms and solids, drawing, natural science. Intermission, 12 to 1.

Singing, 1 to 1:10. A class reads, 1:10 to 1:30. B class studies. B class reads, 1:30 to 1:55. A class given some name word, to write all they can think of about it. At first the teacher will be obliged to assist them in some way; for instance, if the word given be the name of an animal, write some such headings on the board as these: Is it wild or domestic? Of what color? Where found? Its habits? Of what use to man? When angry (or pleased) what kind of a noise does it make? Physical exercise, 1:55 to 2. B class with slates have similar exercise. A class, oral geography, 2 to 2:25. Dismission, to 2:25 to 2:30.

"EDUCATIONAL WEEKLY," (JUNE 20, 1878) QUESTION 66.

"High" is neither an adverb to "intellectual," nor an adj. to "ability." It is, however, an adj. to the complex name "intellectual ability." Hence neither a comma nor a conjunction ought to follow it, as would be required if "high" and "intellectual" were each an adjective to the same noun.

M. M. CAMPBELL.

But—The adj. and the adv. are so close akin (cousins-german to each other), that they are often interchangeable with no variation of meaning. Thus it matters not one whit whether you say Pitt was a man of *high*—or of *highly*—intellectual ability. The grammar differs, but the thought is the same. And the expression in either form is correct.

"Highly" would modify "intellectual" and thus strengthen the *intellectual*-ity of ability, or the *power* of intellect, asserted of Pitt; while "high" would strengthen his "ability;" but *only* as already limited by "intellectual." And thus each makes Pitt a man of high ability in the way of intellect, and in that way only. Neither form of the sentence gives to Pitt, *ANY* ability, (and much less any *highness* of ability), in the way of conscience, taste, or sentiment;—*only* in the way of cold yet clear intellectuality.

"Close-akin," in the first line above, is a compound adjective. Or, "close" is a predicate adj. and akin is an adv. used to show *in what way* the two things are "close." And I assert that they are "close" not in mere external position but in kinship, in family connection. I might just as well have said that the two are *closely akin*. And this would make "*akin*" the predicate adj. and "*closely*" its adverb. And then it would assert not only a kinship as before, but also a close kinship, as I meant to do.

So again in the 5th line of the last paragraph it is wholly a matter of rhetoric and not of grammar whether I use "mere" as an adj., as I do, or *merely*, its adv. The adv. would modify "external" in its limitation of "position." And the adjective "mere" *does* modify the whole complex thought expressed by the phrase "external position." But the two sentences are logically identical.

Indeed, the adv. is always an adj. to the noun-thought of a verb, of an adj., or of something else. Thus when I say, John runs *swiftly* (*swift-like*=like a swift runner,) I simply assert *swiftness* or *speed* either of John's *running* or of John *himself* when running. And it matters not whether we consider the *runner* or his *running* described as *swift*. The doer and his doing always go together. And an adj. or an adv. limitation of one,—of either—is a description at the same time, of the other.

If I say *Prest. Hayes is now highly exalted over his fellow citizens*, I assert highness (greatness) either of his exaltation (his recent uplift over his fellow citizens,) or of *himself* in this uplift. And thus the adv. is always an adj. as I understand its use.

M. M. CAMPBELL.

CALISTHENICS IN PUBLIC SCHOOLS.

BODILY exercises greatly increase the activity of the lungs. They cannot, therefore, be truly beneficial to the whole system, unless carried on in PURE AIR.

Where there are open grounds convenient to the school, the practice should be performed in the open air, except when the weather is inclement.

The second choice would be a spacious hall, well lighted and ventilated.

Corridors may in some cases suffice, where no strong drafts of air strike the pupils.

It is not advisable to use class-rooms, unless the air in them has for some time before been purified by thorough ventilation. It is a fact much to be regretted, that notwithstanding the strictest rules and orders, teachers will very frequently neglect the ventilation of the rooms to which they are accustomed.

Wherever a better arrangement can be made, it is not advisable to have the pupils exercise between the seats in class-room, because this does not al-

low of natural and graceful motions and positions, which are desirable, although of secondary importance.

If the exercises are carried on in-doors, the temperature should be 60—65° Fahrenheit (=15—18° Centigrade.)

During the practice the windows must be open (but not so as to create a direct draft) and closed again immediately when it is terminated.

Children should be impressed with the advantage of loosely fitting clothes to the ease of the movements and a healthy circulation of the blood; tight lacing ought to be discouraged.

The exercises should at first be gentle, increase in force during the lesson, and then gradually diminish, so as to leave the system in as nearly a normal condition as possible at the close of the lesson, in order to avoid taking cold. But all the movements must be vigorous.

The time ordinarily set apart for play and recreation must in no case be used for the Calisthenic exercises.

Systematic physical exertion requires mental concentration as does any other study. It is the opinion of all rational physicians and educators that the pupils ought to be allowed a few minutes of liberty, to relax their nervous tension, between each two lessons of any kind; and Calisthenics should be no exception.

No apparatus is required for this class of school-exercises. Still, where there are no objections to the necessary appropriations, light clubs, dumb-bells, wands, etc., may be used to give more variety in the higher grades of schools.

Care should be taken by the instructors that all parts of the body receive a proportionate amount of exercise, it being the main object of Calisthenics to conduce to the HARMONIOUS DEVELOPMENT of body and mind in the course of education.

Ease and grace in attitude and movement, the dextrous use of the limbs, the healthful circulation of the blood, the increased activity of the skin, the expansion of the chest, and the increase of muscular power can, each by itself, only be considered means to the one great end.

Strength and agility are equally desirable for the average individual of either sex: so are beauty, propriety, and decency. Hence there can be no good reason for making a distinction between the exercises for boys and girls; it is even demonstrable, that many exercises which are generally omitted in Calisthenics for girls belong to those which would prove most beneficial to them in their future maternity. Especially where a lady instructs a class of girls, it would be but necessary to apply the ordinary tact in individualizing, as temporary conditions of pupils must in all cases be taken into consideration.

The gradation of exercises must keep pace with the children's physical development; and since this differs in the different schools and different sections of the country (for instance the Northern and the Gulf States), the exercises must vary accordingly.—*Board of Directors of the Gymnastic Seminary, Milwaukee.*

SYNONYMS.

IN the practical use of the English the use of synonyms is very common. We cannot teach the pupil the proper use of the synonym without pointing out the reason why the word used is appropriate. If we are going to express the idea of oppression we must not use the word violence, for all oppression is not violence; some conduct is oppressive and not violent; violence is therefore too narrow. But all oppression is unjust, and therefore the word we use must embrace the idea of injustice.

Correct these sentences and give the reasons: "The tenant depressed his landlord by defrauding him of his rent." "The highwayman oppressed the traveler by taking his purse." "The tyrant oppressed one of his body-guard by giving him a blow." "They commenced to dance." "They began reading."

In proceeding to use synonyms, we shall soon lay it down as a principle that they have not the same, but similar, meanings. Put a word like "proud" on the blackboard, and at its right let synonymous words be placed. Thus: proud—presumptuous, insolent, vain, haughty. The teacher writes: "He was too proud to beg," and asks for sentences using properly the synonyms. Suppose these are given—"He was presumptuous enough to ask for the chief command." "The brutal insolence of the drunken soldiery alienated the natives." "The general, when requested to lay down his arms, haughtily replied, 'Come and take them.'" "The poet's vanity induced him to take every opportunity of reciting his works."

The next thing will be a discussion of the reason why "presumption" is better than "proud." Pride does not always obtrude one's claims—presumption does. Next, why "insolence" rather than "pride?" Pride does not always exhibit a brutal contempt, haughtiness does. Next, use vanity instead of pride. Pride does not always ask for the admiration of others. A discussion of this kind will demand patience, and careful procedure. The tendency is to haste; to get over the ground as fast as possible. The whole advantage is gone when the pupil fails to feel the fitness of a word for a place, not only, but when he is unable to give a reason why one word suits better than another. Take time for him to find reasons. We subjoin other words and their synonyms to be used in a similar way: "Authority"—power, strength, force. "tribe"—nation, people, populace, population, and family.—*New York School Journal.*

TO DISTRICT BOARDS.

C. J. Collier, Supt. of Jefferson county, Wis., talks thus plainly and sensibly to the district boards in his county: "I again urge you to attend the examinations, and select your teachers from your own observation of their work. Too much care cannot be taken in this matter; and ever bear in mind that a poor teacher is dear at any price, and that you have no right to hire a teacher merely because you have some person in the district, or in your circle of acquaintances, who needs the money, or because some person of influence demands the position for some friend; capacity and willingness to do good work in the school-room should entitle a teacher to a position, and these only should influence your choice of a teacher. A teacher who is unwilling to spend any time or money to attend school institutes, examinations, or take educational papers, you may be sure will make no sacrifice of time or their own ease to make your school a success; to have the days count, and to draw their pay, is their only aim. In closing, I would request you to give your personal supervision to your school, and when you find the teacher either unable or unwilling to conduct the school in a manner that will tend to improve the pupil's character as well as his intellectual ability, demand that teacher's resignation at once, and not wait for the end of the term."

ANSWER TO QUERY NO. 50, IN "WEEKLY" OF MAY 2.

50. A speaks the truth 3 times in 4.

B " " " 4 " " 5.

C " " " 6 " " 7.

What is the probability of an event that A and B affirm, and C denies?

The compound probability that A and B speak the truth and C falsifies is

$$\frac{3}{4} \times \frac{4}{5} \times \frac{1}{7} = \frac{12}{175}.$$

The compound probability that A and B falsify and C speaks the truth is

$$\frac{1}{4} \times \frac{1}{5} \times \frac{6}{7} = \frac{6}{175}.$$

Hence the required probability is,

$$\frac{\frac{12}{175}}{\frac{12}{175} + \frac{6}{175}} = \frac{2}{3}.$$

W. D. HENKLE.

Salem, Ohio.

P. S.—It will be seen that this result contradicts that given by M. H. Brennan, in the issue of June 20. This problem is found on page 257 of Parke's *Philosophy of Arithmetic*, edition of 1849, with the incorrect answer, $\frac{11}{14}$.

ANSWER TO "J. V."

Instead of three, there are six numbers having 12 for their G. C. D. and 936 for their L. C. M., viz.: 24, 36, 72, 156, 312, and 468.

The prime factors of 12 are 2, 2, 3, and of 936 are 2, 2, 2, 3, 3, 13.

All numbers having 12 for their G. C. D., and 936 for their L. C. M., must contain the factor 2 twice, because found twice in the G. C. D., and may contain it three times because found three times in the L. C. M. So with the other factors. Form all the combinations possible.

JOHN W. NICHOLS.

La Moille, Iowa, June 24, 1878.

In Litchfield, Conn., is an old tombstone with the inscription: "Sacred to the memory of inestimable worth of unrivalled excellence and virtue Mrs. Rachel, wife of Jerome B. Woodruff and daughter of Norman Barber, whose ethereal parts became a seraph May 24, 1835, in the 22d year of her age."

"What's the difference," asked the teacher in arithmetic, "between one yard and two yards?" "A fence," said Tommy Beules. Then Tommy sat on the ruler fourteen times.

(Continued from Page 395.)

of all the time. But little of ordinary class work has been done. Each person was supplied with material and could work as slowly or as rapidly as he desired, and all the time under the eye of a competent instructor. The laboratory is destined to become a power for good to the West. When its advantages are understood its rooms will be filled with enthusiastic workers. The credit is due almost wholly to the tireless energy and fertile brain of one man—Prof. S. A. Forbes.

COLORADO.

—L. C. Wooster, of Greeley, has been made Professor of Natural Sciences in the State Normal School at Whitewater, Wis.

OREGON.

—The Annual State Teachers' Institute will be held at Salem, August 21-24. District Teachers' Institutes will be held at Empire City, Coos county, Aug. 2, 3; Jacksonville, Aug. 8, 9, 10; Lakeview, Lake county, Aug. 16, 17. Oregon City, Sept. 2, 3, 4; Eugene City, Sept. 5, 6, 7. The State Board of Examiners will meet at the State Teachers' Institute for the accommodation of applicants for diplomas and certificates.

MINNESOTA.

—Mrs. M. E. Genness, late principal of the Washington School, Minneapolis, has been appointed teacher of English language and literature in the State Normal School at River Falls, Wisconsin.

—Professor H. A. Bickford, Principal of the Fergus Falls schools, goes to San Diego, Cal., to take a similar position in the schools there.

—The salaries paid the teachers in the St. Peter schools, for nine months' service are as follows: Principal, \$1,000; High School teacher, \$600; intermediate, \$405; primary, \$360 for old teachers and \$315 for new.

—The State Educational Association will meet at Minneapolis August 13.

MICHIGAN.

—It is rumored that State Supt. Tarbell has been tendered the superintendency of schools at Indianapolis. Prof. Gower, superintendent of the public schools of Saganaw City, is a candidate for Superintendent Tarbell's present position.

—Dr. Charles Stowell, one of the instructors of physiology at the University, and Miss Louisa M. Reed, the microscopist of the same institution, were married at Saginaw City last week.

—Miss Mary A. Farrand, of Ann Arbor, has been appointed teacher of English language and literature in the State Normal School at Whitewater, Wis.

—Miss Julia M. Stancliff, of Kalamazoo, has also received an appointment in Wisconsin, that of superintendent of the practice department in the River Falls Normal School.

—The Annual State Institute was attended in Lansing this year, during the week July 9-13. Seventeen instructors were present—all state workers—and one hundred and thirty-seven members registered themselves. It is voted on all hands a great success.

—Hudson B. Coleman, late superintendent at Hastings, takes the Principalship of the high school in Kalamazoo, vice McDougall, who goes to the high school in Princeton, Ill.

KENTUCKY.

—Prof. Henry W. White has been elected president of the State University.

—Louisville High Schools victorious in the battle against them; no department or teacher dropped. Reduced salaries for the ensuing year stand as follows: Superintendent of city schools, and Secretary and Treasurer of the Board—each \$2,400; formerly, \$2,700; Geo. H. Tingley, superintendent, and Maj. Wm. J. Davis, secretary and treasurer; Principals of high schools, \$2,250, formerly, \$2,700; Professors in high schools, \$1,500, formerly, \$1,800; Principals of ward schools, \$1,350, formerly, \$1,650; highest salary for lady teachers, \$1,200; lowest, \$360. Twenty-two young men graduated from the Male High School this year. Seventy-three young ladies from the Female High School. There will be a first-

year class in September in the former school, of about 150, and in the latter, of about 175. Principal of the Male High School, J. C. Chenault, Ph. D., Female High School, G. A. Chase, LL. D., the last named gentleman having been recently elected to his position for the seventeenth time. The average daily attendance upon the public schools of Louisville for last year is as follows: high schools, 525; training school, 30; ward schools, 10,860; colored, 1,584; total, 12,999; number of teachers, 320. The Louisville Training School has been abolished by 16 votes—two-thirds of the number of the School Board. Miss L. D. Hanyston, chief-assistant, loses her position—a very successful and popular teacher.

—Candidates for State Superintendent of Public Instruction in Kentucky are numerous. Already a half-dozen are announced and the "mountain counties have not been heard from." Election in August, 1879. The present able incumbent—Rev. Dr. Henderson—seems to have the inside track. Many teachers seem to think that the political parties ought to leave the selection of the candidate to the State Teachers' Association, which meets at Somerset, Aug. 13. A nomination by this body at the present time, however, would amount to nothing, except to show the preference of the practical teachers.

TENNESSEE.

—The Board of Education of Memphis has decided that the salaries of head teachers shall remain at \$100 per month, an exception being made in the case of the master of the colored school. This teacher, it is said, has charge of only three rooms, while others have charge of more, and is working under a contract for \$60 per month. A long debate took place at the meeting over the salaries of other teachers, and it was finally resolved to place them at \$60. Heretofore forty-three teachers of this class received \$72, but nine only \$60, the sum now paid to all. On the question of abandoning the high schools it was decided that for the present they shall be continued; but a committee was appointed to consider, among other things, whether under the charter tuition could be charged.

GEORGIA.

—The *Atlanta Constitution* speaks in high praise of the efficient public services of State Supt. G. J. Orr.

—The North Macon Grammar School was merged last year into the Boys High School,—at least only one principal was appointed for both. For the next year a separate principal will be appointed for the North Macon school.

—A university for colored students will be opened in a few months at Atlanta. It will be called Clark's University.

ARKANSAS.

—The State Teachers' Convention will meet on the 27th inst., at Little Rock.

—Rev. D. L. Denton has been nominated on the Democratic ticket for State Superintendent of Public Instruction.

A convention of the educators of the Southern States for the purpose of organizing a Southern Educational Association will be held at Chattanooga, Tenn., August 6, 7, and 8, 1878.

PROGRAMME.

Tuesday Evening, 7:30. Welcome Address, by His Honor, T. J. Carille, Mayor of Chattanooga. 7:45. *Response*, by Hon. George W. Hill, State Superintendent of Arkansas. 8:00. Temporary organization and enrollment of delegates. 8:30. "The Educational Situation of the South," by B. Mallon, Superintendent of City Schools, Atlanta, Ga. Discussion.

Wednesday Forenoon, 10:00. Permanent organization. 10:15. Enrollment of members. 10:30. "School Supervision," by S. T. Lowry, Superintendent of Schools, Owensboro, Ky. Discussion. 11:15. "We Women," by Miss Clara Conway, of the City Schools, Memphis, Tenn. Discussion. 12:00. "The Study of English," by B. F. Meek, of the University of Alabama, Tuscaloosa. Discussion. *Afternoon, 2:45. Enrollment of members.* 3:00. "Elementary Schools," by D. P. Hurley, President of Masonic Female Institute, Maryville,

Tenn. Discussion. 3:45. "Industrial Education as Related to the Material Development of the South," by Prof. O. D. Smith, Auburn, Ala. Discussion. 4:30. "Text-books and Methods of Instruction in English as Studied in Colleges and Universities," by James M. Garnett, Principal of St. John's College, Annapolis, Maryland. Discussion. *Evening, 8:00. "The Southern Educational Needs,"* by Hon. H. A. M. Henderson, State Superintendent of Kentucky. Discussion.

Thursday Forenoon, 10:15. Enrollment of members. 10:30. "Woman as a Teacher," by J. M. Fish, Superintendent of City Schools, Little Rock, Ark. Discussion. 11:15. "The Teacher the Chief Factor in the Product of a Good School," by George A. Chase, Principal of the Female High School, Louisville, Kentucky. Discussion. 12:00. "Utility and Intellectual Development in Education," by Prof. E. R. Dickson, Mobile, Ala. Discussion. *Afternoon, 3:00. Excursions will be made during the afternoon to the "cloud-capped Lookout Mountain,"* and other places of local and historical interest. *Evening, 8:00. "How Shall we Improve the School System of the Southern States?"* All the state superintendents and many distinguished educators have been invited to be present and take part in the discussion of the above question. 9:00. Social reunion and adjournment.

All educators, teachers, and friends of education have a cordial invitation to be present at this convention, the chief object of which is the organization of a Southern Educational Association.

Since all the persons whose names appear on the programme cheerfully complied with a request to prepare papers for this meeting, a formal call over the signatures of a self-constituted committee is considered unnecessary.

Chattanooga was selected on account of its central location. While there, we shall enjoy the society of that people whose reputation for hospitality is proverbial.

Prof. H. D. Wyatt, Superintendent of the City Schools, Chattanooga, writes that hotels will entertain at reduced rates, and that arrangements will be made for the accommodation of a large delegation.

All persons east, west, north, and south, who are in favor of a broad system of free schools, and who are opposed to ignorance and crime, are urgently called upon to summon every effort within their power to make this the largest and most important educational gathering that ever assembled in the South.

"We must educate or we must perish."

For further information address either of the state superintendents of the Southern States, or T. C. H. VANCE, Carlisle, Ky.

July 1, 1878.

—Our editorial article on the new geography of Southeastern Europe is prepared, but has to give place to other matter.

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By Prof. A. B. Meservey, Ph. D., designed for Common and High Schools and Academies.

This work contains both Single and Double Entry. It is both elementary and comprehensive in its character, is free from unnecessary technicality and formula, is based on the latest business methods, and is thoroughly practical throughout. It is sufficiently full for all ordinary purposes. Wholesale price 60 cents. Blanks, 75 cts. Introduction price, 67 cts. Sent by mail, for examination, on receipt of 67 cents. Send for circulars and catalogue descriptive of this and other school publications. THOMPSON, BROWN & CO., 32 Hawley Street, Boston.

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